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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/537,696  | 11/07/2005  | Akira Onishi         | Q73368              | 8396             |
| 23373   | 7590        | 09/12/2006           | EXAMINER            |                  |
| SUGHRUE MION, PLLC<br>2100 PENNSYLVANIA AVENUE, N.W.<br>SUITE 800<br>WASHINGTON, DC 20037 |             |                      | VANOUY, TIMOTHY C   |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 1754                |                  |

DATE MAILED: 09/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/537,696

Applicant(s)

ONISHI, AKIRA

Examiner

Timothy C. Vanoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☒ Claim(s) 5-9, 12 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>June 6, 2005</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Objections***

a) Claims 5, 6, 7, 8, 9, 12 and 13 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim can not depend on another multiple dependent claim. See MPEP § 608.01(n).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-9 and 12-14 are rejected under 35 U.S.C. 102(e) as being anticipated by U. S. Patent Application Publication No. US 2003/0012728 A1 to Kato et al.

Paragraph no. 0033 in the Kato et al. application discloses the addition of aluminum hydroxide powder into a sodium aluminate solution (evidently at room

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temperature) and then heating the resulting mixture to 108 °C and maintaining the mixture at the same temperature for 0.5 hours.

Paragraph no. 0034 in the Kato et al. application also discloses that the hot slurry was cooled down and poured into a precipitation chamber, thereby precipitating an aluminum hydroxide. The resulting aluminum hydroxide was separated from the slurry. The resulting aluminum hydroxide has an average particle diameter (secondary particle diameter) as large as about 67 micrometers and an average primary particle diameter as large as 20 to 30 micrometers.

It is submitted that the aluminum hydroxide obtained from the same process will inherently be the same aluminum hydroxide set forth in applicants' claim 12: please note the discussion of the *In re Thorpe* 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) court decision set forth in section 2113 in the MPEP 8<sup>th</sup> Ed Rev. 3, Aug. 2005.

Note that paragraph no. 0004 in the Kato et al. application sets forth that aluminum hydroxide is used as a flame retardant filler, in a manner meeting the limitations of applicants' claims 13 and 14.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The person having ordinary skill in the art has the capability of understanding the scientific and engineering principles applicable to the claimed invention. The references of record in this application reasonably reflect this level of skill.

Claims 1-9 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent 4,340,579 to Greber et al.

Example No. 3 in the Greber et al. patent describes a method for obtaining alumina trihydrate crystals (i. e. the applicants' "aluminum hydroxide") by providing a liquor containing caustic lye, aluminum oxide and aluminum trihydrate crystals derived from a Bayer process at a temperature of 52 °C. Pumping the liquor into a container fitted with an agitator and coiled pipes that can be vapor heated. There, the liquor is heated to a temperature of 98 °C. After the reaction period, the solid matter of the suspension is separated by centrifugation. There is isolated solid modified alumina trihydrate crystals (i. e. the applicants' "aluminum hydroxide") having a mean crystal diameter of 24 microns.

Col. 1 Ins. 24-28 in U. S. Patent 4,340,579 discloses that one of the most common flame retardant additives used is alumina trihydrate. This material has found

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wide application as a filler material in the plastics industry, as set forth in applicants' claims 13 and 14.

The difference between the applicants' claims and U. S. Patent 4,340,579 is that the applicants' claims set forth the addition of the aluminum hydroxide into the liquor whereas the process of U. S. Patent 4,340,579 sets forth the provision of a liquor containing the alumina trihydrate, however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because it is reasonably expected that the process of U. S. Patent 4,340,579 will also inherently add the aluminum trihydrate to the liquor (as required in the applicants' claims) in order to provide the aluminum trihydrate-containing liquor of Example 3 in U. S. Patent 4,340,579.

Note that it is reasonably expected that the caustic lye and the aluminum oxide within the liquor described in Example 3 in U. S. Patent 4,340,579 will inherently react to produce the same sodium aluminate set forth in applicants' claim 1.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

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F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of copending Application No. 10-363,921. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of 10-537,696 and 10-363,921 disclose obvious variations of the same method for making aluminum hydroxide by elevating the temperature of a slurry containing aluminum hydroxide obtained from the Bayer process in sodium aluminate solution from a temperature that is not more than 70 °C (as set forth in the claims of 10-363,921) or not more than 60 °C (as set forth in the claims of 10-537,696) to a temperature that is not less than 85 °C (as set forth in the claims of 10-363,921) or not less than 90 °C (as set forth in the claims of 10-537,696).

The difference between the claims of 10-537,696 and 10-363,921 is that the temperature ranges overlap, however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because the courts have already determined that the overlapping portion of a claimed range and a prior art reference's range is *prima facie* obvious: please note the

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discussion of the *In re Wertheim* 541 F.2d 257, 191 USPQ 90 (CCPA 1976) court decision set forth in section 2144.05(I) in the MPEP 8<sup>th</sup> Ed Rev. 3, Aug. 2005.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-14 are directed to an invention not patentably distinct from claims 1-8 of commonly assigned 10-363,921. Specifically, the claims of 10-537,696 and 10-363,921 disclose obvious variations of the same method for making aluminum hydroxide by elevating the temperature of a slurry containing aluminum hydroxide obtained from the Bayer process in sodium aluminate solution from a temperature that is not more than 70 °C (as set forth in the claims of 10-363,921) or not more than 60 °C (as set forth in the claims of 10-537,696) to a temperature that is not less than 85 °C (as set forth in the claims of 10-363,921) or not less than 90 °C (as set forth in the claims of 10-537,696).

The difference between the claims of 10-537,696 and 10-363,921 is that the temperature ranges overlap, however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because the courts have already determined that the overlapping portion of a claimed range and a prior art reference's range is *prima facie* obvious: please note the discussion of the *In re Wertheim* 541 F.2d 257, 191 USPQ 90 (CCPA 1976) court decision set forth in section 2144.05(I) in the MPEP 8<sup>th</sup> Ed Rev. 3, Aug. 2005.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP



Chapter 2300). Commonly assigned 10-363,921, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Claims 1-14 are provisionally rejected under 35 U.S.C. 103(a) as being obvious over copending Application No. 10-363,921 which has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the copending application, it would constitute prior art under 35 U.S.C. 102(e) if published or patented. This provisional rejection under 35 U.S.C. 103(a) is based upon a presumption of future publication or patenting of the conflicting application.

The claims of 10-537,696 and 10-363,921 disclose obvious variations of the same method for making aluminum hydroxide by elevating the temperature of a slurry containing aluminum hydroxide obtained from the Bayer process in sodium aluminate

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solution from a temperature that is not more than 70 °C (as set forth in the claims of 10-363,921) or not more than 60 °C (as set forth in the claims of 10-537,696) to a temperature that is not less than 85 °C (as set forth in the claims of 10-363,921) or not less than 90 °C (as set forth in the claims of 10-537,696).

The difference between the claims of 10-537,696 and 10-363,921 is that the temperature ranges overlap, however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because the courts have already determined that the overlapping portion of a claimed range and a prior art reference's range is *prima facie* obvious: please note the discussion of the *In re Wertheim* 541 F.2d 257, 191 USPQ 90 (CCPA 1976) court decision set forth in section 2144.05(I) in the MPEP 8<sup>th</sup> Ed Rev. 3, Aug. 2005.

This provisional rejection might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the copending application was derived from the inventor of this application and is thus not the invention "by another," or by a showing of a date of invention for the instant application prior to the effective U.S. filing date of the copending application under 37 CFR 1.131. This rejection might also be overcome by showing that the copending application is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Claims 1-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 of copending Application No. 10-380,048. Although the conflicting claims are not identical,

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they are not patentably distinct from each other because the claims of 10-537,696 and 10-380,048 disclose obvious variations of the same method for making aluminum hydroxide by elevating the temperature of a slurry containing aluminum hydroxide obtained from the Bayer process in sodium aluminate solution from a temperature that is not more than 70 °C (as set forth in the claims of 10-380,048) or not more than 60 °C (as set forth in the claims of 10-537,696) to a temperature that is not less than 85 °C (as set forth in the claims of 10-380,048) or not less than 90 °C (as set forth in the claims of 10-537,696).

The difference between the claims of 10-537,696 and 10-380,048 is that the temperature ranges overlap, however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because the courts have already determined that the overlapping portion of a claimed range and a prior art reference's range is *prima facie* obvious: please note the discussion of the *In re Wertheim* 541 F.2d 257, 191 USPQ 90 (CCPA 1976) court decision set forth in section 2144.05(I) in the MPEP 8<sup>th</sup> Ed Rev. 3, Aug. 2005.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-14 are directed to an invention not patentably distinct from claims 1-11 of commonly assigned 10-380,048.

Specifically, the claims of 10-537,696 and 10-380,048 disclose obvious variations of the same method for making aluminum hydroxide by elevating the temperature of a

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slurry containing aluminum hydroxide obtained from the Bayer process in sodium aluminate solution from a temperature that is not more than 70 °C (as set forth in the claims of 10-380,048) or not more than 60 °C (as set forth in the claims of 10-537,696) to a temperature that is not less than 85 °C (as set forth in the claims of 10-380,048) or not less than 90 °C (as set forth in the claims of 10-537,696).

The difference between the claims of 10-537,696 and 10-380,048 is that the temperature ranges overlap, however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because the courts have already determined that the overlapping portion of a claimed range and a prior art reference's range is *prima facie* obvious: please note the discussion of the *In re Wertheim* 541 F.2d 257, 191 USPQ 90 (CCPA 1976) court decision set forth in section 2144.05(I) in the MPEP 8<sup>th</sup> Ed Rev. 3, Aug. 2005.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned 10-380,048, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Claims 1-14 are provisionally rejected under 35 U.S.C. 103(a) as being obvious over copending Application No. 10-380,048 which has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the copending application, it would constitute prior art under 35 U.S.C. 102(e) if published or patented. This provisional rejection under 35 U.S.C. 103(a) is based upon a presumption of future publication or patenting of the conflicting application.

The claims of 10-537,696 and 10-380,048 disclose obvious variations of the same method for making aluminum hydroxide by elevating the temperature of a slurry containing aluminum hydroxide obtained from the Bayer process in sodium aluminate solution from a temperature that is not more than 70 °C (as set forth in the claims of 10-380,048) or not more than 60 °C (as set forth in the claims of 10-537,696) to a temperature that is not less than 85 °C (as set forth in the claims of 10-380,048) or not less than 90 °C (as set forth in the claims of 10-537,696).

The difference between the claims of 10-537,696 and 10-380,048 is that the temperature ranges overlap, however it is submitted that this difference would have been obvious to one of ordinary skill in the art at the time the invention was made because the courts have already determined that the overlapping portion of a claimed

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range and a prior art reference's range is *prima facie* obvious: please note the discussion of the *In re Wertheim* 541 F.2d 257, 191 USPQ 90 (CCPA 1976) court decision set forth in section 2144.05(I) in the MPEP 8<sup>th</sup> Ed Rev. 3, Aug. 2005.

This provisional rejection might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the copending application was derived from the inventor of this application and is thus not the invention "by another," or by a showing of a date of invention for the instant application prior to the effective U.S. filing date of the copending application under 37 CFR 1.131. This rejection might also be overcome by showing that the copending application is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

The following references are made of record:

U. S. Patent 2,549,549 disclosing a method for producing aluminum trihydrate from an aqueous solution of sodium aluminate (please see col. 2 Ins. 5-8);

U. S. Patent 4,574,074 disclosing a process for producing aluminum trihydroxide by using a solution of sodium aluminate (please see the abstract);

U. S. Patent 4,582,697 disclosing the production of aluminum trihydroxide by decomposing a hot supersaturated sodium aluminate solution in the presence of seed aluminum trihydroxide;

U. S. Patent 4,865,825 disclosing a process for the decomposition of sodium aluminate liquor for the production of alumina;

U. S. Patent 5,500,480 disclosing a process for the production of an aluminum hydroxide by providing a solution from the Bayer process and inoculating it with aluminum hydroxide (please see col. 2 lns. 5-10), and

U. S. Patent 5,690,700 disclosing a process for the precipitation of aluminum trihydroxide from a supersaturated sodium aluminate solution.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy C. Vanoy whose telephone number is 571-272-8158. The examiner can normally be reached on Mon-Fri 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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*Timothy C Vanoy*  
Timothy C Vanoy  
Primary Examiner  
Art Unit 1754

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